COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

LOUISVILLE GAS AND ELECTRIC COMPANY)
)) CASE NO. 98-184
ALLEGED FAILURE TO COMPLY WITH)
ADMINISTRATIVE REGULATIONS 807 KAR)
5:006, SECTION 24, AND 807 KAR 5:041,)
SECTION 3	j

ORDER

Louisville Gas and Electric Company ("LG&E"), a Kentucky corporation which engages in the distribution of electricity to the public for compensation for lights, heat, power, and other uses, is a utility subject to Commission jurisdiction. KRS 278.010.

KRS 278.280(2) directs the Commission to prescribe rules and regulations for the performance of services by utilities. Pursuant to this statutory directive, the Commission promulgated Administrative Regulation 807 KAR 5:041, Section 3, which requires electric utilities to maintain their plant and facilities in accordance with the standards of the National Electrical Safety Code (1990 edition) ("NESC"). It further promulgated Administrative Regulation 807 KAR 5:006, Section 24, which requires all utilities to adopt and execute a safety program appropriate to their size and type of operations.

Commission Staff has submitted to the Commission a Utility Accident Investigation Report dated November 20, 1997, appended hereto, in which Commission Staff alleges:

1. On July 7, 1997, Walter Lovelace was injured as he repaired LG&E electric distribution facilities in Louisville, Kentucky.

- 2. At the time of the incident, LG&E had dispatched Lovelace and two other LG&E line technicians, Don Shipley and Gary Razor, to 3413 Bonaventure Boulevard, Louisville, Kentucky, to repair a pad mounted transformer. It had advised the line technicians that an elbow had blown off the bushing in Transformer No. 18. Upon arriving at the scene, the three line technicians switched the feed to Transformer No. 19 to return that transformer to service. They did not de-energize the 7200 volt primary feed to Transformer No. 18. After switching the feed to Transformer No. 19, Lovelace grabbed the blown elbow on the underground primary feed to Transformer No. 18 and received an electric shock.
- 3. At the time of the incident, Lovelace was not wearing or using the protective equipment which had been provided to him.
- 4. At the time of the incident, Lovelace was in charge of the work site and supervising the repair and maintenance activity.
- 5. As a result of his contact with the 7200 volt energized feed line, Lovelace suffered burns to his hands and forearms and required hospitalization.
- 6. NESC Rule 420H requires persons to use the personal protective equipment, protective devices, and special tools provided for their work.
- 7. NESC Rule 421A1 requires the person in charge of a work site to adopt such precautions as are within the individual's authority to prevent accidents.
- 8. NESC Rule 421A2 requires the person in charge of a work site to see that the safety rules and operating procedures are followed by those under his direction.

- 9. NESC Rule 441A1 prohibits an employee from approaching within certain distances an exposed line or part which is operating at certain voltages unless the line or part is de-energized, the employee is insulated from the energized line or part, the energized line or part is insulated from the employee, or the employee is insulated from all conducting surfaces other than the one upon which the employee is working.
- 10. LG&E's internal work rules and procedures require all employees to wear their personal protective equipment and to always assume that electrical equipment and conductors are energized until proven to be de-energized.
- 11. Lovelace violated NESC Section 420H when he failed to wear his protective rubber gloves when attempting to repair the pad mounted transformer.
- 12. Lovelace failed to see that all safety and operating procedures were observed at the work site. His failure is a violation of NESC Rule 421A which requires a person in charge to adopt such precautions as are within his authority to prevent accidents and to see that the all safety rules and operating procedures are observed by those under his direction.
- 13. Lovelace violated NESC Section 441A when he failed to wear his protective rubber gloves when attempting to repair the pad mounted transformer.
- 14. At the time of the incident, Lovelace was an employee of LG&E and acting in the scope of his employment.

Based on its review of the Utility Accident Investigation Report and being otherwise sufficiently advised, the Commission finds that <u>prima facie</u> evidence exists that

LG&E has failed to comply with Administrative Regulations 807 KAR 5:006, Section 24, and 807 KAR 5:041, Section 3.

The Commission, on its own motion, HEREBY ORDERS that:

- 1. LG&E shall appear before the Commission on July 29, 1998 at 9:00 a.m., Eastern Daylight Time, in Hearing Room 1 of the Commission's offices at 730 Schenkel Lane, Frankfort, Kentucky, for the purpose of presenting evidence concerning the alleged violations of Administrative Regulations 807 KAR 5:006, Section 24, and 807 KAR 5:041, Section 3, and of showing cause why it should not be subject to the penalties prescribed in KRS 278.990(1) for these alleged violations.
- 2. LG&E shall submit to the Commission within 20 days of the date of this Order a written response to the allegations contained in the Electrical Utility Accident Investigation Report.
- 3. The Utility Accident Investigation Report of November 20, 1997, a copy of which is appended hereto, is made part of the record of this proceeding.
- 4. Any motion requesting an informal conference with Commission Staff to consider any matter which would aid in the handling or disposition of this proceeding shall be filed with the Commission no later than 20 days from the date of this Order.

Done at Frankfort, Kentucky, this 27th day of April, 1998.

PUBLIC SERVICE COMMISSION

Chairman

Vice Ahairman

Commissioner

ATTEST:

Executive Director

APPENDIX A

AN APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 98-184 DATED APRIL 27, 1998

UTILITY ACCIDENT INVESTIGATION REPORT

			····				
Utility:	Louisville Gas and Electric						
Reported By:	Larry Miller						
Dates & Times	·						
Accident Occurred:	07/20/97 - Approximately 7:04 p.m.						
Utility Notified:	07/20/97 - Approximately 7:15 p.m.						
PSC Notified:	07/20/97 - 8:02 p.m.						
Investigated:	07/21/97						
Written Report Rcvd:	07/25/97				·		
Location of Accident:	3413 Bonaventure Boulevard, Louisville	3413 Bonaventure Boulevard, Louisville, Kentucky 40219					
Description of Accident:	Mr. Walter Lovelace was injured while working on the underground primary feed to a pad mounted transformer installation. Mr. Lovelace, Lead Line Technician and two fellow crew members, Don Shipley and Gary Razor, both Line Technicians, were dispatched to 3413 Bonaventure Boulevard to work a reported outage on an underground pad mounted transformer installation. Mr. Lovelace inadvertently made contact with an energized 7200 Volt underground primary feed to Transformer No. 18 during the work process. Mr. Lovelace was the Lead Line Technician at the accident site and was not wearing or using protective equipment at the time of the accident.						
Victims:				·			
Name:	Walter Lovelace	Fatal:	No	Age:	49		
Addr./Empl.:	1502 English Station Road, Louisville/Lo	ouisville G	as and Elec	ctric			
Injuries:	Burns to both hands and forearms.	.			,		
Witnesses:	Name	Address/	Employm	ent			
	Don Shipley - Line Technician (A)	Louisville	e Gas and	Electric			
	Gary Razor - Line Technician (A)	Louisville Gas and Electric					
Sources of	Name -	Address/	Employm	ent			
Information:	Larry Miller	Louisville	e Gas and	Electric			
	Don Shipley	Louisville	e Gas and	Electric			
·	Gary Razor	Louisville	e Gas and	Electric	·		

	Dave Ridge		Louisville Gas and Electric			
	Dave Britt Louisville Gas and Electri			lectric		
Probable Violations:	NESC, 1990 Edition, Section 42 & 44, Rules for Supply Employees. Rule 420H Tools and Protective Equipment; Rule 421.A.1 & 2. General Operating Rules; Rule 441A. Approach to Energized Conductors or Parts.					
Line Clearances At Point of Accident:	Measured	Minimum Allowed by NESC	Applicable NESC Edition ¹ 1990	Volt.	Constr. Date	
Underground Pad Mounted Transformer Installation:	N/A	N/A	1990	7200	1979	
Date of Measurement:	N/A		,			
Approximate Temp.:	80°F					
Type of Facilities:	7200 Volt underground primary feed to pad mounted transformer. Last inspected on 08/28/95.					
Investigated By:	John W. Land					
Signed:	Johne?	Kanes				

- Attachments A. Louisville Gas and Electric's Accident Report B. Photographs of Accident Site

Current edition adopted by the Commission. If clearances are not in compliance with the current edition, then the edition in effect when the facilities were last constructed or modified would apply.

Attachment A
Louisville Gas and Electric's Accident Report



Louisville Gas and Electric Company 220 West Main Street P.O. Box 32010 Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL CONTACT

Type of Report

97-E-021A

Report Number

A L Miller

Investigator

JULY 21, 1997

· Date of Incident

Reference: Electrical Contact

Location:

3413 Bonaventure Blvd.

Louisville, KY. 40006

Case Summary:

Addendum:

On Sunday, July 20, 1997, at 19:50 hours, I arrived at the above address to investigate Walter Lovelace's accident, and met with the following Louisville Gas and Electric Company employees.

Fred Krebs

-- Manager ESD Service Center

Tony Highland. -- Sr. Distribution Operations Supervisor

Terry Tomes

-- Line Construction and Maintenance Supervisor

Dominic Simms -- Line Technician - Trouble

Jerry Belcher -- Line Technician - Trouble

Steve Jones

-- Senior Mechanic - Equipment Shop

Gary Darnall

-- Mechanic Helper - Equipment Shop

A SUBSIDIARY OF LGSENERGY.

Investigation Report

Page 2.

Addendum:

On Monday, July 21, 1997, at 09:00 hours, I met with John Land, (Investigator with Public Service Commission) at the above address to investigate Walter Lovelace's accident.

The following Louisville Gas and Electric Company employees were also met with at the above address.

Mike Engleman -- Sr. Corporate Attorney

Doug Blakeman -- Director Electric Service Delivery
Fred Krebs -- Manager ESD Service Center

Dave Ridge -- Distribution Operations Supervisor

Steve Tacket -- Line Construction & Maintenance Supervisor

Chuck Carlton Jr. -- Health & Safety Specialist III

Tony Bullock -- Production Support Leader and Union Representative
John Probst -- Line Technician A and Safety Committee Chairman

Ron Hasch -- Job Coordinator- Distribution Operations

Gray Razor -- Line Technician A
Don Shipley -- Line Technician A

After leaving the above address we went to LG&E's South Service Center on Jennings Lane to view the pad mount transformer that was removed from the above address Sunday, July 20, 1997. Then we went to LG&E's East Service Center on Highway 22.

The followings LG&E employees were met with at South Service Center:

Mike Engleman -- Sr. Corporate Attorney

Doug Blakeman -- Director of Electric Service Delivered

Dave Britt -- Group Leader - Transformer Services Operations

Chuck Carlton -- Health & Safety Specialist III

Mike Hale -- Mechanic A - Equipment Shop

Richard Bullock -- Operator - Plant and Union Stev

Richard Bullock -- Operator - Plant and Union Stewart

Al Judd -- Operator - Yard and Union Safety Representative

John Probst -- Line Technician A

Investigation Report Page 3.

The following LG&E employees were met with at East Service Center:

Fred Krebs -- Manager ESD Service Center

Steve Tacket -- Line Construction and maintenance Supervisor

Chuck Carlton -- Health and Safety Specialist III

Bob Webb -- Sr. Technical Training Instructor

Chuck Huber -- Sr. Technical Training Instructor

Al Judd -- Operator - Yard and Union Safety Representative

LOUISVILLE GAS AND ELECTRIC COMPANY

Post Office Box 32010 Louisville, Kentucky 40232 LG&E Fax: 627-2583

Confirmation: 627-

Date 7-25-97
Attention Martha Morton, Marager
Electric Branch
P5C
Company
City and State
Fax Number 1-502-564-1588 Confirmation Number
From George Siernens.
Number of Pages, INCLUDING Cover Page
Subject
Measage

CONFIDENTIALITY NOTICE

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George R. Siemens, Jr.

Director
Fyrannal Affaira
LG&E Building
12th Floor
502-627-2323
502-627-2930 FAX

July 25, 1997

VIA FAX

Ms. Martha Morton, Manager Electric Branch Kentucky Public Service Commission P.O. Box 615 Frankfort, KY 40602

RE: Electrical Shock - 3413 Bonaventure Blvd.

Louisville, KY - July 20, 1997

Dear Ms. Morton:

Attached is an "Investigation Report" on the above incident which was prepared by Larry Miller. This is filed in compliance with the seven-day reporting requirement.

A hard copy of this report, along with photographs taken at the scene, will be forthcoming.

If you need additional information concerning this incident, please feel free to contact me at (502) 627-2323.

Sincerely,

Attachment



Louisville Gas and Electric Company 220 West Mein Stroot P.O. Dox 32010 Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL SHOCK

Type of Report

97-E-021

Report Number

A. L. Miller

Investigator

July 20, 1997

Date of Incident

Reference: Electrical Shock

Location:

3413 Bonaventure Blvd.

Louisville, KY. 40219

Case Summary:

On Sunday, July 20, 1997, at approximately 19:15 hours, I received a call from Electric Trouble Department about an employee receiving an electrical shock. At 19:50 hours, I arrived at the above address and met with several LG&E employees. I was informed Walter A. Lovelace was working on the underground primary feed to a pad mounted transformer when he received the electrical shock.

Walter Lovelace, Lead Line Technician, was dispatched to 3413 Bonaventure Blvd. and was advised there was an elbow blown off the bushing in transformer no. 18. Walter Lovelace and fellow crew members, Don Shipley and Gary Razor, both Line Technicians, arrived on the site and switched the feed to transformer no. 19 to get it back on the line and failed to de-energize the feed to transformer no. 18. Mr. Lovelace received the 7200 volt shock when he grabbed the blown elbow on the normal underground primary feed to transformer no. 18 that is feed from transformer no. 11. Mr. Lovelace was wearing light weight leather gloves and kneeling on a rubber blanket at the time.

At 19:04 hours, Gary Razor reported the accident to Electric Trouble Department and requested the E.M.S. Misters Shipley and Razor began CPR on Mr. Lovelace. E.M.S. arrived on the scene and transported Mr. Lovelace to the University Hospital at approximately 19:35 hours.

A SUBSIDIARY OF LGSENERGY... Investigation Report Page 2

Mr. Lovelace received burns to both hands. He was released from the hospital Thursday, July 24, 1997.

At 20:02 hours, I notified Mr. John Land's answering machine and then I called Ms. Martha Morton, both with the Public Service Commission. Ms. Morton was informed the transformer and the elbow on the conductor would have to be changed out to get the customers back on line. She said to change the equipment out and John Land would meet with us Monday morning, July 21,1997.

Photographs were taken Sunday night and Monday morning at the accident site.

On Monday, July 21,1997, at approximately 09:00 hours, Mr. John Land arrived to investigate the accident.

Photographs and additional materials to follow under separate cover.



Louisville Gas and Electric Company 220 West Main Street P.O. Box 32010 Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL SHOCK

Type of Report

97-E-021

Report Number

A. L. Miller

Investigator

July 20, 1997

Date of Incident

Reference: Electrical Shock

Location:

3413 Bonaventure Blvd.

Louisville, KY. 40219

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A SUBSIDIARY OF

LG&ENERGY...

Investigation Report Page 2

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Fax Message From:

Jul 25 '97 14:21

Name: LG&E EXEC OF 12th FL. Fax Number: 1-502-627-2930

E

LOUISVILLE GAS AND ELECTRIC COMPANY

Post Office Box 32010 Louisville, Kentucky 40232 LG&E Fax: 627-2583

Confirmation: 627-

Date $1-25-97$			•
Attention Martha Morton, Manager			
Electric Branch			
P5C			
	,		
Сотрапу		:	
City and State	* ; ;		
From Horge Siemens	-		
From Glorge Siemens			
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Loge.

LOUISVILLE GAS AND ELECTRIC COMPANY

Post Office Box 32010 Louisville, Kentucky 40232 LG&E Fax: 627-2583 Confirmation: 627-

Date		
Attention		:
	,	
Company	·	
City and State		
Fax Number	Confirmation Number	
From		
Number of Pages, IN	CLUDING Cover Page	•
Subject		
Message		
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George R. Slemens, Jr.
Director
External Affairs
LG&E Building
12th Floor
502-627-2323

502-627-2930 FAX

July 25, 1997

VIA FAX

Ms. Martha Morton, Manager Electric Branch Kentucky Public Service Commission P.O. Box 615 Frankfort, KY 40602

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A hard copy of this report, along with photographs taken at the scene, will be forthcoming.

If you need additional information concerning this incident, please feel free to contact me at (502) 627-2323.

Sincerely,

Attachment

A SUBSIDIARY OF

LGSENERGY.



August 5, 1997

Louisville Gas and Electric Company 220 West Main Street P.O. Box 32010 Louisville, Kentucky 40232

Ms. Martha Morton, Manager Electric Branch Kentucky Public Service Commission P. O. Box 615 Frankfort, KY 40602

> RE: Electric Shock - 3413 Bonoventure Blvd. Louisville, KY - July 20, 1997

Dear Ms. Morton:

Attached is the additional information requested relating to the incident indicated above.

If you need any additional information, please let me know. I can be reached at (502) 627-4883.

Very truly yours, Juny & Fergar

Gregory B. Fergason

Regulatory Affairs Coordinator

Attachment

NAME: W.A. LOVE ACE EMPLOYEE NUMBER: 2497
CLASSIFICATION: SENIOR CABLE SOLICER

TRAINING SESSION	TIVE	F Dimmaria	
		DATE TAK	EN REMARKS
Trouble shooting Overhead Lines	4 3005.	11-14.94	
Trouble shooting	'		
Overhend Transfer	4 405.	11-14-94	
GROUNDING COMM. Equip	G 1+125	11-15-94	
Hurtman Rescue	2 mas.	11-15-94	1 16.600 000
Basic Kigging for Court		1	L GUMPLE TEN
Transfer & Mountain	8 HZS.	11-16-54	
	4 m.	11-17-9	$\cap \cap \cap$
OS VARION (WITCHS	1		66000
CONDUCTUR 51265	,	111-17-9	
WINE SPUTCING		11-13-74	Course agency
GEENGOISEA	8	10-14-96	Pased
FAIL Protection	2	6-12-97	
			PASSED
			,
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NAME: WALT LOVELACE EMPLOYEE NUMBER: 2497

CLASSIFICATION: PHASE II INSTRUCTOR

TRAINING SESSION TIME DATE TAKEN REMARKS	
GETGGIPRO 2 Hrs 5.24-73 Use of Process	
(FET GG T PRO 12 Hrs 5-24-73 Use of Propose	e / Devices
BSH #73	,
GET GG \$ 2 HRD 4 WS 5.24-93 URD Hardwere	/ alsterial
	í
GETGG 93 SPL 6 Hrs 193 Secondary Coste	Solicia
	7
GETGG 84 TRM 8 25-25-93 AER8 \$7 Inst / Replace of	7
(a) 1 / . Q - A 5 A 2 m2	(87 M.)A.
GET GG ØS ELD AGHOS STORES URD Exetical	A
GET GG BS ELD ASH-S URD Exetrical.	Diagrams
GET GG 96 SWL 8 Hrs 5-27-93 Sw. tch Logic/Ener	s. Procedure
GET GG \$7 TRP 8 Hrs 5-28-53 Advanced Trans	Principles
	3
GETGG88 TEM 1 Hrs 5-38-53 Installation of	Tem Son
	1
	1
*	

418-60-3543

NAME: W.A. LOVELACE, SR. (WALT) EMPLOYEE NUMBER: 2497

CLASSIFICATION: SENIOR CABLE SPLICER

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETOOI	1/2 HR	6-26-91	COMPLETED
G55003	8 HR	3.12.92	COMPIFTED
G EG NO 2 2 2 2 3	3	5-26-92	GUMPLETED
GEENGOZCPE	7	3/12/93	
GEENGOL BIP	4	3/12/93	
BESNGCUPKA	40	7/12-16/93	COMPLETED
GEENGOISFA	P	3/23/94	
GEENGAISTA	8	10/14/96	Presed
FATT Protection	2	6/12/97	Passed
			·
			8 <u>2</u> 47
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-		÷	

2497

NAME W. A. Lace EMPLOYEE NUMBER 418-60-3543

CLASSIFICATION Coble Solicee X

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
Mini - Digger	31/2	9-15-87	
hood buster	15.	9-15-87	
5-0" P-LE	1 Hx	5-13-88	PAC PARTITION
Bucket Truck	12 An	3-7-99 3-9-88	
Ha	1 AX	15-97	
Nus I.	4412	11-1-88	
NUS 2.1	H H R	11-1-88	
l		0.46-50	WAL.
PM-TO			Successful
SFA	1 7		CPR-84 FA-88
AEOCIG		1-16-90	83% OK
AECC17	8 HR	1-17-90	75 % F
AEOC!9	5 HR	1-17-90	8690 OK
AEOC18	4HR	1-18-90	100% OK
AEOCZO		1-19-90	82% OK
GSSØZØ		2-15-90	80%
GSSØ22	4HR	2-15-90	COMPLETE
GSSØ2Ø	4HR	2-7-91	80%
GSS-025	4HR	2-7-91	GUMPLETED
		6-5-91 THRU 6-7-91	GOMPLETED (APS)

FAGE

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/21/57

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	W = 12075140E 55				[= :
24=7	% A LOVELACE ER		STANDARD FIRST AID	96/10/14		5.0
	W A LOVELACE SR		BASIC FACILITATION	75/09/13		e.0
2497	W A LOVELACE BR	_		98/08/29	C	5
2497	W A LOVELACE BR		BAFETY VISION	96/08/29	C	. 5
	W A LOVELACE SR		STREES AND SAFETY	95/07/31		1.0
	TWTATLDVELACETSR	TEDENSOCC9C	- PROCESS IMPROV FACILITATORS	95/06/11-	-c	20::(
2497	W A LOVELACE SR	65EN600032	PARKING AND BACKING .	95/05/01	C	1.0
2497	W A LOVELACE SR	GEENGSLIPS	SLIPS, TRIPS, AND FALLS	75/03/01	C	1.0
2497	W A LOVELACE SR	TAE0001	PROTECTIVE EQUIPMENT	-95/12/11-	- C	4.(
2497	W A LOVELACE SR	AETCERM	BASIC MATHEMATICS	95/12/11	С	5.5
2497	W A LOVELACE SR	AETCOUTWR	USE OF TWO-WAY RADIOS	95/12/11		3.0
24 97-	WA LOVELACE SR	- AETCGCUCST	CARE/USE-CABLE SPLICER TOOLS	95/12/1 1 -	c	4.5
2497	W A LOVELACE SR	AETCGWCTM	WIRE/CABLE-TYPES & MATERIALS	95/12/11		4.0
2497	W A LOVELACE SR	AETCGTF	TRANSFORMER FUNDAMENTALS			3.5
2497-	-W-A-LOVELACE-SR		LEVELING TRANSFORMER PADS		- <u>c</u> · · · · ·	
	W A LOVELACE SR		INSTALLATION SPLICE BOX/MOLES			3.5
2497	W A LOVELACE SR	AETOSLA	LIGHTNING ARRESTERS	95/12/11		4.0
2497	W A LOVELACE SR			95/12/11-		2.5
2497	•	AFTOREE	- INSULATORS	95/12/11		7.0
	W A LOVELACE SR	AETCGBSRW	BASIC STRINGING / REM'L WIRE			3.0
	WALOVELACE SR			95/12/11		4.(
	W A LOVELACE SR	AETCGSTB	SECONDARY TIE BREAKERS	95/12/11		5.0
2497		AETCGSL	STREET LIGHTING	95/12/11		3.0
	W A LOVELACE SK		-SECONDARY-CABLE-SPLICING			
	W A LOVELAGE SR		C/U OF SIMPLE LINEMAN TOOLS	95/12/11		
2477 2497						٤.٥
			"C" CLASS ASSESSMENT PROGRAM	95/12/11		8.0
			- INTRODUCTION TO WINDOWS'95			
2497	W A LOVELACE SR		ACCIDENT INVESTIGATION	95/11/09	_	4.0
2497	·· -·· · -··		BUCKET TRUCK RESCUE	95/11/02		2.0
	W A LOVELACE SR		PERSONAL PROTECTIVE EQUIPMENT		_	1.0
	W A LOVELACE SR		SEXUAL HARASSMENT	95/10/23	-	.2
	W A LOVELACE SR		SAFETY VISION KICKOFF	95/10/18	_	1.5
	W A LOVELACE SR			95/10/17-	_	5
	W A LOVELACE SR	GETNTTCB	SEC TIED BREAKERS	95/10/04		.2
	W A LOVELACE SR		STANDARD FIRST AID	95/09/12	-	8.0
2497	-W-A-LOVELACE-SR	-GEENGBEHAV -	-BEHAVIOR BASED SAFETY TRAINING-	-95/07/12 -	-C	3.6
2497	W A LOVELACE SR	66EN600009	HAZ COM FLAMMABLE LIQUIDS	95/06/12	_	1.0
2497	W A LOVELACE SR		NO FALL PROTECTION	95/05/10	-	2.0
2497	W-A-LOVELACE-SR	GSUNG00001***	CODE OF BUSINESS CONDUCT	-95/05/02-	-c	1.0
2497	W A LOVELACE SR	GXENLGOVHS	GOVERNOR'S SAFETY & HEALTH CNF	95/04/19	С	24.0
2497	W A LOVELACE SR		HAZ COM LABELING	95/03/29		1.0
249 7	W-A-LOVELACE-SR	BEENTALCPO -	ALCOHOL POLICY TRAINING	-95/0 3/15-	С	
2497	W A LOVELACE SR		TRAIN THE NUS TRAINER	95/03/02	С	8.00
	W A LOVELACE SR		OXYGEN MONITORING	95/02/15	-	.50

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PAGE 2

LOUISVILLE GAS & ELECTRIC CO. DATE 07/21/97
EMPLOYEE COURSE LISTING TIME 14.50.35 EMPRP1

			CLASS	CLASS	CLASS
EMP NAME	COURSE	COURSE_TITLE	DATE	STATUS	HOURS
					-
. 2497 W A LOVELACE SR			95/02/03		2,00
2497 W A LOVELACE SR	GEENGOSHA	DSHA 29CFR. 1910.269 TRAINING			16.00
2497 W A LOVELACE SR	GXENLOSHA	TRI-STATE ELEC. SYMPOSIUM	95/01/13		8.00
2497 W A LOVELACE SR	" GEENGEPGND	EQUIPOTENTIAL GROUNDING METHOD	95/01/11	C	2.00
2497 W A LOVELACE SR		PHASE 3 TRAINING	94/11/18		.01
2497 W A LOVELACE SR		CONDUCT. SIZES & WIRE SPLIC	94/11/18		5.00
2497 W A LOVELACE SR	GETGGSWICH	"OPER: % INSTAL. OF VAR. SWITCH	94/11/17	.C	4.00
2497 W A LOVELACE SR	GETGGTIEBK	SECONDARY TIE BREAKERS	94/11/17	C	4,00
2497 W A LOVELACE SR	GETGGHRTMN	HURT MAN RESCUE	94/11/16	C	2.00
2497 "W"A LOVELACE SR"	GETGGRIGG "	BASIC RIGGING, TRANSF & MOUNT.	94/11/16	.C .	8.00
2497 W A LOVELACE SR	GETGGGRND	GROUNDING PROCEDURES, COMM. EQ	94/11/15	С	6.00
. 2497 W A LOVELACE SR	GETGGTRBOH	TROUBLE-SHOOTING O. HEAD LINES	74/11/14	С	4,00
2497 W A LOVELACE SR	GETGSTRBTR-	TROUBLE-SHOOTING OH TRANSF.	94/11/14	€	4.00
2497 W A LOVELACE SR	GEENGUPDTE	BLOODBORNE PATHOGENS UPDATE	94/10/19	Ε	1.00
2497 W A LOVELACE SR	GEENGSOLVE	HAZ-COM HALOGENATED SOLVENTS	54/10/05	С	1.00
2497 W A LOVELACE SR	GDQNG00074	ESD TASK FORCE TEAM TRAINING	94/08/19	С	8.00
2497 W A LOVELACE SR		*	94/08/03	С	2.00
2497 W A LOVELACE SR	MEENGWPVIL	S-VIOLENCE IN THE WORKPLACE	94/07/19	C	1.00
2497 W A LOVELACE SR	- GEUNTFAMLA	FAMILY AND MEDICAL LEAVE ACT	94/06/20 -	C	1.00
2497 W A LOVELACE SR	GEENGO1HAZ	HAZ-COM, WHAT'S IT ALL ABOUT	94/04/20	C	1.00
2497 W A LOVELACE SR		STANDARD FIRST AID	94/03/23	ε	a.00
2497 W A LOVELACE SR	BOUNTCOMUN	COMMUNITY RELATIONS	94/02/11	. ℂ ·	.75
2497 W A LOVELACE SR	GEENT JAN 1	WINCH LINE SAFETY	94/02/09	C	.50
. 2497 W A LOVELACE SR	GOGNGMBLK '	REGULATORY AFFAIRS INFORMATION	94/02/03	C	1.00
2497 W A LOVELACE SR	GEENT94001	COLD WEATHER SAFETY	94/01/07	-C	.50
. 2497 W A LOVELACE SR	GETNT94002	FAULTED CIRCUIT INDICATORS	94/01/07	С	.50
2497 W A LOVELACE SR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	53/12/17	C	1.00
2497 W A LOVELACE SR	· GEENGBLOO1	BLOODBORNE PATHOSENS UPDATE	93/12/14	C	1.00
. 2497 W A LOVELACE SR	GOENGHM181	DOT HM181 SHIPPING PAPERS	73/12/13	С	2.00
. 2497 W A LOVELACE SR	GEGNGTRS01	TRANSFORMER FIELD TICKETS	93/11/03	С	.50
2497 W A LOVELACE SR	GETNHGTANT -	-MINI-GIANT-TRAINING	93/10/20	-C ·	2.00
. 2497 W A LOVELACE SR	GETNHMETER	AUTOMATED METER READING	93/09/22	C .	1.00
. 2497 W A LOVELACE SR	BESNGCUPKA	FOREMAN LEADER SKILLS	93/07/16		40.00
2497 W A LOVELACE SR	GETGG07TRP-	-ADVANCED-TRANS. PRINCIPLES	93/05/28 =	. C - · ·	8.00
2497 W A LOVELACE SR	GETGG08TEM	INSTALLATION OF TEMPORARY SERV	93/05/28	C	1.00
2497 W A LOVELACE SR	GETGG06SWL	SWITCH. LOGIC & ENERG/DE-ENERG	93/05/27	С	8.00
2497 W A LOVELACE SR	GETGGOSELD-	URD-ELECTRICAL-DIAGRAMS	93/05/26***	·C ···	4.00
2497 W A LOVELACE SR	GETGG04TRM	INSTALL. & REPLACEMENT OF TERM	93/05/25	С	E.00
2497 W A LOVELACE SR	GETGG01PRO	USE OF PROPANE & PROP DEVICES	93/05/24	C	2.00
12497" W ATLOVELACE"SR	GEENGOZCPR	ADULT CPR RECERTIFICATION	93/03/12	C	4.00
. 2497 W A LOVELACE SR	GEENGO4BIP	BACK INJURY PREVENTION	93/03/12	С	4.00
2497 W A LOVELACE SR	GDGNGBKHST	BLACK HISTORY PRESENTATION	93/02/26	С	1.00
2497 W A LOVELACE SR	GOINGMMIS2	-MMISMR ISSUE TRAINING	93/02/16	C	4.00
2497 W A LOVELACE SR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING			1.50
. 2497 W A LOVELACE SR	GEENGBLOOD	BLOODBORNE PATHOGENS PLAN	92/11/17	ε.	2.00

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LOUISVILLE GAS & ELECTRIC CO. EMPLOYEE COURSE LISTING

DATE 07/21/97 "TIME"14.50:35

 EMP	NAME	COURSE	CDURSE_TITLE -	CLASS DATE	CLASS STATUS	CLASS HOURS
 2497	WALDVELACE SR	TEENHHOULT	THIGH VOLTAGE TRAINING	 -92/10710	.6	8.00
2497	W A LOVELACE SR	GDGNGRH001	ROGER HALE EMPLOYEE MEETING	92/07/27	C	2.50
2497	W A LOVELACE SR	GEENGHIVLT	HIGH VOLTAGE DEMONSTRATION	92/07/07	r.	1.50
 2497	W A LOVELACE SR		"FIELD"AMBASADDR TRAINING	92/05/26	· C · ·	8.00
2497	W A LOVELACE SR	GEENGO1SFA	STANDARD FIRST AID	92/03/12		8.00
2497	W A LOVELACE SR	GDRNG0001	MANAGING CUSTOMER INTERACTION	92/02/19	C	16.00
 2497	WA LOVELACE SR	GDUNGCDOO2		~92702706	- C	3.00
2497	W A LOVELACE SR	GXGNL00042	CULTURAL DIVERSITY	92/02/06	Ċ	4.00
2497	W A LOVELACE SR	GET002	STANDARDS SEMINAR	91/07/31	C.	1.50
 2497	W A LOVELACE SR	GET001	HI-POT TEST SEMINAR	71/05/26	- c	1.50
2497	W A LOVELACE SR	636008	ANALYTICAL PROBLEM SOLVING	91/06/05		24.00
2497	W A LOVELACE SR	GDENG40232	DEFENSIVE DRIVING	91/05/21	C	8.00
 2497	W A LOVELACE SR	GSS020	ADULT CPR RECERTIFICATION		- <u>C</u>	4.700
2497	W A LOVELACE SR	G3S025	BACK INJURY PREVENTION	91/02/07	C	4.00
2497	W A LOVELACE SR	695020	ADULT CPR RECERTIFICATION	90/02/15	C	4.00
 2497	W A LOVELACE SR	G55022	"HAZARD" COMMUNICATION TRAINING"	90/02/15		4.00
2497	W A LOVELACE SR	AEDC20	STREET LIGHTING	90/01/19	С	8.00
2497	W A LOVELACE SR	AEDC18	BASIC SERVICES	90/01/18	С	4.00
 2497	W A LOVELACE SR	AEDC17	BASIC STRINGING/REMOVAL WIRE	90/01/17	F	8:00
2497	W A LOVELACE SR	AEDC19	SECONDARY TIE BREAKERS	90/01/17	С	5.00
2497	W A LOVELACE SR	AEDC16	FUSES & FUSING	90/01/16	С	7.00
 2497	W A LOVELACE SR	G35018	STNDRD FIRST AID/CPR	89/03/08~	· C	
2497	W A LOVELACE SR	BTP002	ORIENTATION TO FCTP	89/03/01	С	1.00
2497	W A LOVELACE SR	AEDB21	BASIC METERS	89/01/18	С	8.00
 2497	W A LOVELACE SR	AEBEO1	ORIENTATION TO TWO SYSTEMS &EQ-	88/11/01	c	4.50-
2497	W A LOVELACE SR	BTS001	SAFETY IN T&D MAINTENANCE	88/11/01	С	4.00
2497	W A LOVELACE SR	BTP001	FIVE FOOT RULE	89/05/13	С	1.00

TOTAL EMP 2497

543.76

TOTAL

38

543.76 ----

NAME:	DON	SHIPLEY	<i>(</i> ·	EMPLOYEE	NUMBER:	3216

CLASSIFICATION: LINETECHNICIAN A

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
REVIEW	4 HRS	5/14/97	COMPLETED
A.C. POWER	4.5 HRS	5/15/97	COMPLETED
ELECTROMAGNETIC Induction review	4 HRS	5/14/97	CUMDIETED
TRANSFORMERS ! TRANSF. BANKS	8 HRS	5/12/97 5/13/97	CUMDI ELLED
URD TRANSFORMER II	8 HRS	5 13 97	COMPLETED
SWITCHING LOLIC ENERGITATION DE-EN.	8 HRS	5/13/97	rardieted
THSTALLATION ?	_{ем.} 8#RS	5/16/97	ூடுவர் ப <u>ிச</u> ிச்ச
PRIMARY CABLE SPLICING TECHNIQUES	8 HRS	5/16/97	
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3216

NAME D. L. Shipled EMPLOYEE NUMBER 25- 997

CLASSIFICATION LINEMAN A.

		- 		
STON AND E 1/M 3-21-88 PSC NUS 1. 1		TIME	DATE TAKEN	REMARKS
STON AND E 1/M 3-21-88 PSC NUS 1. 1	GATERGENER	1 AR	1-20-87	
NUS Z. 1 4th 11-1-88 CPR Come B 8HR 11-23 7176 CPR 2hr 12/27 74/1. SFA 8HR 03-07-89 CPR-72 FA-100 BM-TIT W 4HR 03-27-89 73/. BM-TIT @ 4HR 2-15-90 92 76 CSSØ2Ø 4HR 2-15-90 COMPLETE AEOBOI 21 HR 5-29/31 90 8896 GSSØ2Ø 4HR 2-8-91 BOMPLETED GETOOZ 11/2 8-13-91 C GSSO03 8HA 3-10-92 GOMPLETED SSSO03 8HA 3-10-92 GOMPLETED	5'-0" AULE	1 HR	3-24-88	
CFR CDICE B 8HR 11-23 7176 CFR 2NC 12/27 741. SFA 8HR 03-07-89 CPR-72 FA-100 BM-TIT W 4HR 03-27-89 731. BM-TIT Q 4HR 2-15-90 COMPLETE AEOBOI 24 HR 2-15-90 COMPLETE AEOBOI 24 HR 2-8-91 80%. GSSØ25 4HR 2-8-91 COMPLETE GETOO2 11/2 8-13-91 C GSS003 8HD 3-10-92 COMPLETED XIOO10 11/4 8-13-91 C	NUS 1.1	4 1412	11-1-88	
CIR 2NG 12/27 747. SFA 8HR 03-07-89 CPR-72 FA-100 BM-TIT N 4HR 03-27-89 73%. BM-TIT 0 4HR 2-15-90 Completed GSSØ2Ø 4HR 2-15-90 COMPLETE AEOBOI 24HR 2-8-91 80%. GSSØ2S 4HR 2-8-91 COMPLETED GETOOZ 11/2 8-13-91 COMPLETED XIOO10 11/4 8-13-91 C GSSOO3 8HA 3-10-92 COMPLETED	Nus z.l	4th	11-1-88	
SFA 8HR 03-07-89 CPR-72 FA-100 BM-TIL W 4HR 03-27-89 73%. BM-TIL O 4HR 2-15-90 Completed GSSØ2Ø 4HR 2-15-90 COMPLETE AEOBOI 24HR 2-8-91 80%. GSSØ2S 4HR 2-8-91 GIMPLETED GETOOZ 11/2 8-13-91 C GSSO03 8HA 3-10-92 GIMPLETED	CPR Care B	8 HR	11-23	71%
BM-TIT W 4HR 03-27-89 73/. BM-TIT 0 4HR 03-27-89 Completed GSSØDØ 4HR 2-15-90 9296 GSSØDD 4HR 2-15-90 COMPLETE AEOBOI 24HR 5-29/31 90 8896 GSSØDØ 4HR 2-8-91 BOTG GETOOD 11/2 7-29-91 C GETOOD 11/4 8-13-91 C GSSOOD 8HG 3-10-92 GOMPLETED	Cir	2hr	12/77	74%
BM-TIT W 4HR 03-27-89 73%. BM-TIT 0 4HR 2-15-90 Completed GSSØ2Ø 4HR 2-15-90 COMPLETE AEOBOI 21 HR 5-29/31 90 8890 GSSØ2Ø 4HR 2-8-91 BOTO. GETOOZ 11/2 7-29-91 C GETOOZ 11/4 8-13-91 C GSSOOZ 8HA 3-10-92 GOMPLETED	SFA	8HR	03-07-89	CPR-72 FA-100
GSSØ2Ø 4HR 2-15-90 9296 GSSØ22 4HR 2-15-90 COMPLETE AEOBOI 24HR 5-29/31 90 8896 GSSØ2Ø 4HR 2-8-91 80% GSSØ2S 4HR 2-8-91 GIMPLETED GETOOZ 11/2 8-13-91 C GSSOO3 8HG 3-10-92 GIMPLETED	BM-TT W			
GSSØQØ 4HR Q-15-90 9296 GSSØQQ 4HR Q-15-90 COMPLETE AEOBOI 24 HR 5-29/31 90 8896 GSSØQØ 4HR Q-8-91 80%6 GSSØQS 4HR Q-8-91 GIMPLETED GETOOQ 11/4 7-29-91 C GETOOZ 11/4 8-13-91 C GSSOOZ 8HA 3-10-92 GIMPLETED	BM-TIL Q	4 42	03-27-89	Completed
AEOBOI 24 HR 5-29/31 90 8896 GSSØ2Ø 4HR 2-8-91 80% GSSØ2S 4HR 2-8-91 GIMPLETED GETOOZ 11/2 7-29-91 C GETOOZ 11/4 8-13-91 GUMPLETED XIOO10 11/4 8-13-91 C GSSOO3 8HG 3-10-92 GIMPLETED	GSSØ2Ø	4 H.R	' l	,
AEOBOI GSSØ2Ø GSSØ2Ø GHR 2-8-91 GSSØ25 GHR 2-8-91 GETOO2 I'/2 J'/2 8-13-91 C GSSO03 BHG 3-10-92 GNPLETED TO STEED TO STEE	GSSØ22	4HR	2-15-90	COMPLETE
GSSØ25 4HR 2-8-91 GOMPLETED GETOOQ 11/2 7-29-91 C GETOOZ 11/2 8-13-91 GOMPLETED XIOO10 11/4 8-13-91 C GSSOO3 8HG 3-10-92 GOMPLETED	AEOBOI	Z4 HR	5-29/31 90	****
GET002 11/2 7-29-91 C GET003 11/2 8-13-91 GUMPLETED XI0010 11/4 8-13-91 C GS5003 8HG 3-10-92 GUMPLETED	GSSØQØ	4HR	2-8-91	80%
GET003 11/2 8-13-91 GUMPLETED XI0010 11/4 8-13-91 C GSS003 8HG 3-10-92 GUMPLETED	GSSØ25	4HR	2-8-91	GOMPLETED
XI0010 11/4 8-13-91 C GSS003 8HG 3-10-92 GOMPLETED	GETOOR	1/2	7-29-91	C ·
XI0010 11/4 8-13-91 C GSS003 8HG 3-10-92 GOMPLETED	GETOOZ	1/2	8-13-91	GUMPLETED
	XI0010		1	
GEGN 00003 8 0.K. MAY 39 592	G55003	841	3-10-92	
•	GEGN 000003	8		O.K. WAY 3 8 1985
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404-90-6059

NAME: DON Shipley EMPLOYEE NUMBER: 35-3216

CLASSIFICATION: LINEMAN A.

(TO 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETGGOIPRO	2 Hes	2/22/93	USE OF Propane Devices 1854073
GETGGOZHRD	4 HRS	1	URD HARDWARE & MATERIALS AERCIL
GETGG \$3 SPL	6 Hes	2/22/93	Secondary Cable Splicing
GETGG OHTRM	8 Hes	2/23/93	THAT & REPLACE OF TERMIN. AERODZ
GETGGOSELD	4 Hrs	2/24/93	LRD Electrical Diagram
GETGG465WL	8 Hrs	2/26/93	AERAO7 Switch Logic Exerg Proced AEROII
GETGGOTTRP	8Hes	2/24/93	Advanced Trans. Princip.
GETGG & TEM	142		Installation of Tem See
GEENGOZ CPR	4	3/17/93	COMPLETED
GEENGOL BIP	4	3/17/93	COMPLETED
GEGNGAPS	24	2/19/93	COMPLETED
GEENGOISFA	ર્	3/22/94	EUWDI ELEU
GESNGCUPKA	1 1	10/17-21/94	CCESPICTED
GETNG EXGND	16	2/21-22/95	COMPLETED
GEENGOISIEA	9	10-14-96	PASSED
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Phase II TRAINING

PAGE

EMPRP1

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LOUISVILLE GAS & ELECTRIC CO. EMPLOYEE COURSE LISTING

DATE 07/22/97

:	5 M D	NAME	00/1000		CLASS		CLASS
:	EMP	NAME	COURSE	COURSE_TITLE .		STATUS	HOURS
		 SHIPLEY		-STANDARD-FIRST-AID			B-00
		D L SHIPLEY	GETNGNNESC	NESC	96/07/22		3.25
		D L SHIPLEY		PROG.CAP.CONT.	96/04/02		1.50
		D L SHIPLEY			96/03/2 9 -		2.00—
			MEDIA		96/03/01		1.00
	_	D L SHIPLEY		SLIPS, TRIPS, AND FALLS			
		D L SHIPLEY		BUCKET TRUCK RESCUE	95/11/02		2.00
		D L SHIPLEY		PERSONAL PROTECTIVE EQUIPMENT			1-00
		D L SHIPLEY		SEXUAL HARASSMENT	95/10/23		.25
		D L SHIPLEY		SAFETY VISION KICKOFF	95/10/18		1.50
		B-L-SHIPLEY			-95/10/17-		
		D L SHIPLEY	GETNTTCB	SEC TIED BREAKERS	95/10/04		. 25
		D L SHIPLEY		STANDARD FIRST AID	95/09/13		8.00
		D L SHIPLEY	· ·	-HAZ-COM-FLAMMABLE-LIQUIDS			1-00-
		D L SHIPLEY		BEHAVIOR BASED SAFETY TRAINING			3.00
	3216	D L SHIPLEY		CONTINUOUS IMPROVEMENT VIDEO			2.00
		I L SHIPLEY		-CODE-OF-BUSINESS-CONDUCT	-95/04/21-	- C	100
		D L SHIPLEY	GEGNPIRTL	SAFETY INCIDENT, AT PIRTLE	95/04/20	C	1.00
	3216	D L SHIPLEY	GGENG00023	HAZ COM LABELING	95/03/29	C	1.00
	- 3216 -	D L SHIPLEY-			- 95/03/15-		1-00-
	3216	D L SHIPLEY	GETNTEXEMF	OCCUPATIONAL EXPOSURE TO EMF	95/03/08	C	.50
	3216	D L SHIPLEY	GETNGEXGND	SAFETY EXCEL. TRAINING	95/02/22	С	16.00
	3216	D-L SHIPLEY	GEENTOXYMO-	- DXYGEN-MONITORING	-95/02/15-		
	3216	D L SHIPLEY	BEENGOVERV	1910.269 OVERVIEW	95/02/03		2.00
	3216	D L SHIPLEY		RUBBER GLOVE TESTING	95/02/01	С	.25
_	- 3216 -	D L SHIPLEY	GEENGEPGND	-EQUIPOTENTIAL GROUNDING METHOD-	-95/01/11	-C	2,00-
	3216	D L SHIPLEY	GEENGUPDTE	BLOODBORNE PATHOGENS UPDATE	94/11/04	С	1.00
		D L SHIPLEY		LEADERSHIP SKILLS	94/10/21		40.00
		D L SHIPLEY		-HAZ-COM-HALOGENATED-SOLVENTS-			100
		D L SHIPLEY		SAFETY AWARENESS	94/08/03		2.00
		D L SHIPLEY		FAMILY AND MEDICAL LEAVE ACT			1.00
		D L SHIPLEY		HAZ-COM-FLAMMABLE LIQUIDS-			1-00-
		D L SHIPLEY		HAZ-COM, MSDS SHEETS	94/05/02		1.00
		D L SHIPLEY		HAZ-COM, WHAT'S IT ALL ABOUT			1.00
_		D L SHIPLEY			-94/03/22-		
		D L SHIPLEY	GDGNGMBLK	REGULATORY AFFAIRS INFORMATION			1.00
		D L SHIPLEY		COLD WEATHER SAFETY	94/01/07		
							.50
		D L SHIPLEY		-FAULTED-CIRCUIT INDICATORS			
		D L SHIPLEY		ESC CLASS OF ACCOUNTS TRAINING			1.00
		D L SHIPLEY		BLOODBORNE PATHOGENS UPDATE	93/12/14		1.00
		D L SHIPLEY		-DOT-HM181-SHIPPING-PAPERS			2-00
		D L SHIPLEY		TRANSFORMER FIELD TICKETS	93/11/03		.50
		D L SHIPLEY	GETNHGIANT	MINI-GIANT TRAINING	93/10/20		2.00
_		B-L-SHIPLEY		-AUTOMATED-METER-READING	-93/0 9/22		1.00-
		D L SHIPLEY		ADULT CPR RECERTIFICATION	93/03/17		4.00
	3216	D L SHIPLEY	GEENGO4BIP	BACK INJURY PREVENTION	93/03/17	С	4.00

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TOTAL

LOUISVILLE GAS & ELECTRIC CO. -EMPLOYEE-COURSE-LISTING-

DATE 07/22/97 -TIME-11-26.54--

334.76

334.76

	MP	NAME	COURSE	COURSE_TITLE -	DATE	STATUS	
	 21%-	 -D-L-SHIPLEY	 6DGNGBKHST-	BLACK-HISTORY-PRESENTATION-			
		D L SHIPLEY	GETGGPHAS2		93/02/26		
		D L SHIPLEY	GETGG06SWL			_	.01
		D-L-SHIPLEY		-ADVANCED-TRANS PRINCIPLES			8.00
-		D L SHIPLEY					
		B L SHIPLEY		INSTALLATION OF TEMPORARY SERV		_	1.00
		D L SHIPLEY		URD ELECTRICAL DIAGRAMS	93/02/24		4.00
		D L SHIPLEY		-INSTALL-&-REPLACEMENT-OF-TERM-			
				USE OF PROPANE & PROP DEVICES	93/02/22	_	2.00
		D L SHIPLEY		URD HARDWARE & MATERIALS	93/02/22		4.00
		D L SHIPLEY		-SECONDARY CABLE-SPLICING			6.00
		D L SHIPLEY	GEGNGAPS	ANALYTICAL PROBLEM SOLVING	93/02/19		24.00
		D L SHIPLEY		ESC CLASS OF ACCOUNTS TRAINING			1.50
		D L SHIPLEY		-BLOODBORNE-PATHOGENS-PLAN	52/-1-1/-17		2-00
		D L SHIPLEY		HIGH VOLTAGE TRAINING	72/10/10	С	8.00
		D L SHIPLEY		HIGH VOLTAGE DEMONSTRATION	92/07/07		1.50
		-D-L-SHIPLEY	-E00000003-	FIELD-AMBASADOR-TRAINING	92/05/20-	- C	8.00
		D L SHIPLEY		THEFT PREVENTION	92/04/23	С	.50
3	216	D L SHIPLEY	GEENGO1SFA	STANDARD FIRST AID	92/03/10	С	8,00
	216	D L SHIPLEY	GDGNG0002	-STRESS-MANAGEMENT	- <i>-</i> 92/02/ 13 -	-E	
3	216	D L SHIPLEY	GOUNGCD002	CULTURAL DIVERSITY PHASE I	92/02/05	С	3.00
3	216	D L SHIPLEY	GXGNL00042	CULTURAL DIVERSITY	92/02/06	С	4.00
3	216	D L SHIPLEY	GETNG01	FIRE-POWER	-91/11/05-	-C	2_00
3	216	D L SHIPLEY	GDENG40232		91/08/27		8.00
3	216	D L SHIPLEY	GET003	RAILROAD CROSSING SAFETY	91/08/13	Č	1,50
3:	216-	D L SHIPLEY	X10010	-CAREER-PLANNING-&-ADVANCEMENT			1,-25 -
	216	D L SHIPLEY	GET002	STANDARDS SEMINAR	91/07/31		1.50
3:	216	D L SHIPLEY	GET002	STANDARDS SEMINAR	91/07/29		1.50
3:	216-	D L SHIPLEY	G55020	ADULT CPR RECERTIFICATION			4.00
3:	216	D L SHIPLEY	GS5025	BACK INJURY PREVENTION	91/02/08		4.00
3:	216	D L SHIPLEY	AEDB01	INTERMEDIATE ELEC PRINCIPLES	90/05/29	-	24.00
3:	216-	D L SHIPLEY	GSS020	ADULT CPR RECERTIFICATION			4-00-
		D L SHIPLEY	GSS022	HAZARD COMMUNICATION TRAINING	90/02/15		4.00
32	216	D L SHIPLEY	AEOB21	BASIC METERS	89/03/27	_	8.00
		D L SHIPLEY	BTP002	ORIENTATION TO FCTP			
		D L SHIPLEY	GSS018	STNDRD FIRST AID/CPR	89/03/07		1.00
		D L SHIPLEY	6SS002	CPR TRAINING			.00
		B L SHIPLEY			88/11/23		8.00
		D L SHIPLEY	BTS001				4.50
		D L SHIPLEY	-	SAFETY IN T&D MAINTENANCE	88/11/01		4.00
		D L SHIPLEY	BTP001	FIVE FOOT RULE	88/03/24	ւ	1.00
د د	10	D C SHIFLET		NEW-EMPLOYEE-ORIENTATION-		W	B00

SIGN-IN SHEET (Please Print)

Date 5/13/97 Instructor's Name	Well Huber
Subject Presented Switching	Logic
Location ESC	/ Training Hours
Training MeetingTailgate Meeting	Safety Meeting
Supervisor's Name	

Please check one Last Name/First Name Signature Dept/ BU (C MS NE (please print in ink or Empl.# type) 35-3144 KAUFMAN N.L 35-3267 35-2475 35-3216 34-2419 35-1845 "AMBRON 34-1770 35-2423 35-2231 2 F2798 35.2673

BU = Bargaining Unit

NE = Non-exempt

MS = Manager/Supervisor IC = Individual Contributor

se Trumma Sesacor # //4

ESD TRAINING COURSE RECORD SHEET

NAME:	<u>G.</u>	RAZOR	EMPLOYEE NUMBER:	3220
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CLASSIFICATION: LINE TECHNITIAN A

TRAINING SESSION	THE	DATE TAKE	1.5511.5770
TRAINING SESSION	TIME	DATE TAKEN	REMARKS
BASIC ELECTRICITY REVIEW	4 HRS	3-3-97	COMPLETED
HIGH VOLTAGE A.C. POWER	4.5 HRS	3-3-97	COMPLETED
ELECTROMAGNETIC INDUCTION REVIEW	4 HRS	3-26-97	COMPLETED
TRANSFORMERS ! TRANSF. BANKS	8 HRS	3-25-97	COMPLETED
TRANSFORMER I	8 HRS	3-24-97	COMPLETED
SWITCHING LOCIC ENERGITATION DE-EN.	8 HRS	3-24-97	COMPLETED
THSTALLATION ?	24. 8HRS	3-27-97	שולעטון ובבבנים
PRIMARY CABLE SPLICING TECHNIQUES	8 HRS	3-27-97	COMPLETED
			·
			•
			,
		<i>‡</i>	

T & D TRAINING COURSE RECORD SHEET

407-78-6382

NAME: G. RAZOR EMPLOYEE NUMBER: 35-3210

CLASSIFICATION: LINEMAN A

TRAINING SESSION	(223 02	7 1 000 00 1000	
TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETGGOIPRO	1240	5-10-93	AEREII
GC T G G G T P KD	12 ne	5 70-93	USE OF PropAME DEVICES
CETCC + 7 110x	1111	_	10340/3
GETGGGZHRD	14 HRS	5-10.93	URD HARDWARE & Materials
10			AERCIL
GETGG \$3 SPL	6 Hes	5-10-93	SECONDARY CABLE Splicing
	1		
GETGGG4TRM	18 Hes	5-11-93	I not & REDIACE of TERMIN.
1	1		AER302
GETGG05ELD	4 HRS	5-12-93	
		5-12 93	MERAOT Electrical Diagram
GETGG \$65WL	8HRS	5-13-93	CILII .
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	01.23		Switch Logic Exerg Proced
GETGG07TRP	8Hes	_	MEKCII -
GO I GGO / I KF	Dries	5-14-93	Advanced Trans. Princip.
GETCCL++	1,10	5-114-42	l
GETGGD&TEM	148	5-14-93	Installation of TEM SEZ
N	,		
GEENGOZCPR	4	4/20/94	GOMBLETT?
0 0	. 1	· ' '	
GEUNGFAMB2	4	4/20/94	ROMBLETTO
	· · · · · · · · · · · · · · · · · · ·	1.	
GESNGCUPK*	40	12/12-16/94	THE STATE OF THE S
•		/ / 2 / 6 / 7 /	CZFZ/FFC
FAll Pectection	2	1-12 02	
TATT TETESTION	-	6-12-97	PASSED
First Aid CPR	8	10001	0
FIRST AID CPR	0	10-9-96	PASSED
1			
1	1		
	1		
		4 v 1	l

thase IT TRAINING

T&D TRAINING COURSE RECORD SHEET

3220

NAME G.W. PLAZOR

EMPLOYEE NUMBER 35-659

CLASSIFICATION LINEMAN A

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GATERLEWER	1HA	1-20-89	
5'-0" 100CR	Illa.	7-34-88	PTC
452 - COMM	1.4n	5- 87	
Fight Rid	Bin.	1(132	231.
NUS 1.1	4 HR	12-7-88	
NUS 2.1	4 HR	12-7-88	
BM-TT W	14	3-9-89	877.
BM-TIT Q	4	3-9-89	Completed
G55003	8HR	3-12-90	
GSSØ2Ø	4HR	2-25-91	COMPLETED
GSSØZZ	4HR	2-25-91	
GEENG ØZCPR	4	3-30-92	
SEENGO4BIP	4	3-30-92	CONTRACTOR OF THE PROPERTY OF
GEGNO DO DO DO 3	3	6-3-92	
GEENGUISFA	8	4-6-93	
FALL PROTECTION	Z.	6-12-97	Passed
		.5	

SIGN-IN SHEET (Please Print)

•						
Date 3-24-9	Instructor's Name	With				
Subject Presented	witching Z	odgic				
Location ESC	J	Tra	ining H	lours_		
Training Meeting	Tailgate Meeting	Safety	Meetir	ng		
Supervisor's Name						
				Please c	heck one	 e
Last Name/First Name (please print in ink or type)	Signature	Dept/ Empl.#	BU	iC	MS	NE
Hebenstein Kenneth	1- man B that	-3010	V			
RAZOR EARY	San Whon	3220	V			
RL HHCC	29/16	2350.	1			
D.T. Viusen	D. T. Vissan	2597				
D.L. EVANS	D. L. France	95-3175				
R.L. Cranford		35-2514	V			
F. N. AZELL	1	351764				
HERRICEATHER MICHAEL		35 3306	1			
Rhodes Keris	K : Red	37 . 3781	<i>L</i>			
		X				
		,				

BU = Bargaining Unit NE = Non-exempt

MS = Manager/Supervisor IC = Individual Contributor

EMPRP1

LOUISVILLE SAS % ELECTRIC CO.

	EMP	NAME	COURSE	COURSE_TITLE	DATE	STATUS	HOUR
		G W RAZOR	CEENGO1SFA -	-STANDARD FIRST AID	76/10/07	C · ·	€.(
	3220	G W RAZOR	GEENGSHORT	TAKING SHORTCUTS	96/08/29	С	. 5
	3220	6 W RAZOR	GEENGSVISN	SAFETY VISION	96/08/29	С	. 5
	3220-	- G-W-RAZOR	GEENGSLIPS -	SLIPS; -TRIPS; AND FALLS			1.0
	3220	- G-₩-RAZOR - G W RAZOR	GEENTTRS05		95/23/95		. 5
		G W RAZOR		BUCKET TRUCK RESCUE	95/11/02		2.0
		-G-W-RAZOR		PERSONAL PROTECTIVE EQUIPMENT			. 1,6
		G W RAZOR		SEXUAL HARASSMENT	95/10/23		. 3
		G W RAZOR			95/10/18		1,5
		- G. W. RAZOR			95/10/04		
		G W RAZOR		STANDARD FIRST AID	95/09/12		່ອ.(
				BEHAVIOR BASED SAFETY TRAINING			5.(3.(
_			GEENGBERRY				
	7220	G W RAZOR -G-W-RAZOR G W RAZOR	SEENEOUOUT	-HAZ-COM-FLAMMABLE-LIQUIDS			1.0
					95/05/23		
		G W RAZOR		CONTINUOUS IMPROVEMENT VIDEO			2.
		-G-W-RAZOR		SAFETY EXCELTRAINING -			
		G W RAZOR		CODE OF BUSINESS CONDUCT			1.
		6 W RAZOR	GEGNPIRTL				1.
	3220 -	-G-W-RAZOR		HAZ-COM-LABELING	95/03/29-		
		6 W RAZOR	PEENTALCPO	ALCOHOL POLICY TRAINING	95/03/15	C ,	1.
	3220	G ₩ RAZOR	GETNTEXEMF	OCCUPATIONAL EXPOSURE TO EMF	95/03/08	C ·	
	3220-	-G-W-RAZOR	PEENGOVERV	-1910:269-0VERVIEW	95/02/03-	-C	· 2.
	3220	G W RAZOR	BETNTGLOVE	RUBBER GLOVE TESTING	95/02/01	С	
	3220	G ₩ RAZOR	GEENGEPGND	EQUIPOTENTIAL GROUNDING METHOD	95/01/11	С	2,
	32 20-	-G-W-RAZOR	GESNGCUPKA	-LEADERSHIP-SKILLS	94/12/16-	C	ب ب الك ــــــــــــــــــــــــــــــــــــ
	3220	G ₩ RAZOR	BXONHCONDR	CONDOR CERTIFICATION	94/11/16	С	₽.
	3220	G W RAZOR	GEENGGASES	HAZ - COM GASES	94/11/09	С	1.
	3220	-G-W-RAZOR		-BLOODBORNE-PATHOGENS UPDATE	94/11/09-	C	1.
	3220	.G W RAZOR	GEENGUPDTE- GEENGSOLVE GETNTODOO1	HAZ-COM HALOGENATED SOLVENTS	94/10/05	С	1.
	3220	G ₩ RAZOR	GETNT00001	SAFETY AWARENESS	94/08/03		2.
	322 0	-6-W-RAZOR		-FAMILY-AND-MEDICAL-LEAVE-ACT	94/06/20-		1.
	3220	G W RAZOR	GEENGO1HAZ	HAZ-COM, WHAT'S IT ALL ABOUT	94/04/20	С	1.
	3220	G W RAZOR	GEENGO2CPR	ADULT CPR RECERTIFICATION	94/04/20	С	4.
				FIELD-AMBASSADOR REFRESHER			
		G W RAZOR	GOENGMBLK	REGULATORY AFFAIRS INFORMATION			1.
		G ₩ RAZOR		COLD WEATHER SAFETY			•
		-6-W-RAZOR		-FAULTED-CIRCUIT-INDICATORS		_	٠
		6 W RAZOR		ESC CLASS OF ACCOUNTS TRAINING			1.
		G W RAZOR		BLOODBORNE PATHOGENS UPDATE			1.
				DOT-HM181-SHIPPING PAPERS-			2.0
				TOURSHOUSE EVEN TICKETS	73712713/- 97/11/07	-C	
		G W RAZOR		TRANSFORMER FIELD TICKETS	93/11/03 93/10/20	ر د	.: ~ .
		G W RAZOR					2.0
				AUTOMATED-METER READING			1.0
		G W RAZOR	· -	PHASE 2 TRAINING	93/05/14	_	
	3220	6 W RAZOR	GETGGO7TRP	ADVANCED TRANS. PRINCIPLES	93/05/14	€ ,	€.0

PAGE 2

EMPRP1

G

LOUISVILLE GAS & ELECTRIC CO. DATE 07/22/97

		EIAMT		במונים דידו ד		CLASS	CLASS
	EMP	NAME	COURSE	COURSE_TITLE	DATE	STATUS	HOURS
	3220-	TG-W-RAZOR	GETGGOBTEM	INSTALLATION OF TEMPORARY SERV	93/05/14	r.	1.00
		G W RAZOR	GETGGOASWL	SWITCH. LOGIC & ENERG/DE-ENERG		•	8,00
		6 W RAZDR	GETGG05ELD	URD ELECTRICAL DIAGRAMS	93/05/12	•	4.00
		= : =	· GETGGQ4TRM	INSTALL. & REPLACEMENT OF TERM		_	8.00
•		G W RAZOR	SETGG01PRD	USE OF PROPANE & PROP DEVICES	93/05/10		2.00
		G W RAZOR	GETGG02HRD	URD HARDWARE & MATERIALS	73/05/10	_	4.00
· —		-G-W-RAZOR	GETGG03SPL	SECONDARY CABLE SPLICING	93/05/10		6.00
		G W RAZOR	GEENGO1SFA		93/04/06	•	8.00
		G W RAZOR	GEGNGAPS	ANALYTICAL PROBLEM SOLVING		_	24.00
	3220	~G.W.RAZOR · · · · · · ·	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/01/04	Ċ	1,50
	3220	G W RAZOR	GEENGRLOOD		92/11/17		2.00
	3220	G W RAZOR	GEENHHVOLT	HIGH VOLTAGE TRAINING	92/10/10	Ē	8.00
	3220	GW RAZOR	· GEENGHIVLT-	HIGH-VOLTAGE DEMONSTRATION	92/07/07	C	1.50
•	3220	G W RAZOR	GEGND00003	FIELD AMBASADOR TRAINING	92/05/03	С	8.00
	3220	G W RAZOR	GEENGO4BIP	BACK INJURY PREVENTION	92/03/30	C	4.00
	3220-	G W RAZOR	GDUNGCD002	CULTURAL DIVERSITY PHASE I	92/02/06	C	3.00
•	3220	G W RAZOR	6XGNL00042	CULTURAL DIVERSITY	72/02/06	С	4.00
	3220	G W RAZOR	GETNG01	FIRE POWER	91/11/05	С	2.00
	3220-	-G-W-RAZOR	-SET003	RAILROAD CROSSING SAFETY	91/08/15	· C ·	1.50
-	3220	G W RAZOR	XI0010	CAREER PLANNING & ADVANCEMENT	91/08/15	С	1.25
	3220	6 W RAZOR	GDENG40232	DEFENSIVE DRIVING	91/03/27	C	8.00
.,	3220-	-6-W-RAZOR	- GSS020	-ADULT CPR RECERTIFICATION	91/02/25	-C	4.00
	3220	G W RAZOR	655022	HAZARD COMMUNICATION TRAINING	91/02/25	2	4.00
	3220	6 W RAZOR	655003	STANDARD FIRST AID	90/03/12	C	8.00
	3220-	-G-W-RAZOR		- BASIC-METERS	89/03/09	C	8.00
	3220	6 W RAZOR	AEDE01	DRIENTATION TO TWO SYSTEMS WED	83/12/07	С	4.50
	3220	G W RAZOR	BTS001	SAFETY IN T&D MAINTENANCE	88/12/07	С	4.00
·	3220	G-W-RAZOR	655001	FIRST AID/MULTI-MEDIA	83/11/17	C	8.00
-	3220	G W RAZOR	BTP001	FIVE FOOT RULE	83/03/25	С	1.00
	TOTAL	-EMP-3220					
•	IDIAL	EHF 3220			•		287.51
							20/101
	TOTAL						
	TUTAL						287.51
						· · ·	

CRIMPING TOOLS & DIES RECOMMENDED FOR ELASTIMOLD **ELBOW COMPRESSION CONNECTORS**

	Τ-		т-									
ANDERSON	VC-6			·		<u> </u>	** NO DIE REQ'D.					VC-6 NOT RECOMMENDED
BLACKBURN	HYDR	DIE NO.				A 11 C 12	DZ4EA					
BLAC	OD58	DIE NO.				, ,	∞ >					
KEARNEY	H1,H2	DIE NO.		-		9/16	572					
KEA	0	DIE NO.				5/8 Nose	g o 6					
BURNDY	Y35 Y45*	DIE NO.				U243(2)	U27RT(3)	•				U29RT(3) U27ART(3)
BUR	MD6,MD7	DIE NO.				W243(3) WBG(3)	BG Nose(6)					W247(4)
ALCOA	12A	DIE NO.				B24EA						
номас	HYDR	DIE NO.				25						
Ĭ	UTS	DIE NO.				2						
CSA	•	DIE NO.				22(2) xx						
T&B	нурв	DIE NO.				20						
CU OR AL CONDUCTOR SIZE	AWG OR KCM	COMPT. SOLID	#2	#4	#3	#2	#1	1/0	2/0	3/0	4/0	250
CONDUC		STR. COMPR.	9#	#2	#4	#3	#2	#1	1/0	2/0	3/0	4/0
CRIMP	BARREL	5			r	625"	(15,9mm)				.781"	(20,0mm)
CAT.	NO.		180	190	200	210	220	230	240	250	260	270

Requires Adapter No. 6515.

Wire brush bared aluminum conductor before inserting into connector.

Rotate each successive crimp 90° or 180°.

xx Overlap crimp.

To be used on aluminum conductor ONLY. Number of crimps. *

Investigation Report Page 2

Mr. Lovelace received burns to both hands. He was released from the hospital Thursday, July 24, 1997.

At 20:02 hours, I notified Mr. John Land's answering machine and then I called Ms. Martha Morton, both with the Public Service Commission. Ms. Morton was informed the transformer and the elbow on the conductor would have to be changed out to get the customers back on line. She said to change the equipment out and John Land would meet with us Monday morning, July 21,1997.

Photographs were taken Sunday night and Monday morning at the accident site.

On Monday, July 21,1997, at approximately 09:00 hours, Mr. John Land arrived to investigate the accident.

Photographs and additional materials to follow under separate cover.



Electric Transmission and Distribution Department T&DTRAINING



SPECIFICATEXTE

Smiching Logic and Energization/De-energization
Procedures IV

SLEDPIV (T&D-R)

1. Introduction

1.4 <u>Isolation and Energization of a Section of Primary Cable and</u> Transformer

When isolating a section of primary cable and transformer from a URD circuit a schematic diagram must be used and the primary cable and transformer must be totally removed from the circuit.

To isolate a section of primary cable from a URD circuit, both ends of the primary cable to be isolated must be disconnected or removed from the terminals where they are connected. After the primary cable ends have been disconnected and removed from the terminals, the primary cable must be tested for dead and should be grounded before starting work.

To isolate a transformer from a URD circuit, the primary cables at the transformers on either side of the transformer to be isolated must be disconnected or removed from the terminals where they are connected. After the primary cables have been disconnected or removed from the terminals, test the isolated transformer and the primary cables to make sure that they are de-energized. Testing all primary cables and transformers to be worked on to make sure they are de-energized is extremely important in URD systems. Since URD cables run underground, out of sight, it is not possible to be absolutely sure where they feed from. Although diagrams and tags are important aids in identifying cables and transformers, they may contain incorrect information. The only way to make sure that the right cables have been disconnected is to test them to make sure no voltage is present.

When a section of primary cable and/or a transformer needs to be energized, a worker should make sure that the primary cable and transformer have been terminated.

5-FOOT RULE

EMPLOYEES SHALL NOT APPROACH, OR TAKE ANY CONDUCTIVE OBJECT WITHOUT APPROVED INSULATION, CLOSER TO UNGUARDED, EXPOSED ENERGIZED PARTS THAN SHOWN IN THE FOLLOWING TABLE: UNLESS, THE EMPLOYEES ARE INSULATED FROM THE ENERGIZED PARTS, OR THE ENERGIZED PATS ARE INSULATED FROM THE EMPLOYEES. APPROVED, RUBBER GLOVES AND SLEEVES SHALL BE CONSIDERED ADEQUATE INSULATION OF THE EMPLOYEE FROM THE ENERGIZED PART.

600V THROUGH 13.8 KV

Underground cable has adequate insulation: You do not have to wear protective equipment, until you get within five feet of termination. At that point, before coming within five feet of termination, you put your gloves and sleeves on.

UNDERGROUND TRANSFORMERS

DEAD-FRONT TRANSFORMERS, PADMOUNT.

BEFORE OPENING LID OR DOOR, YOU MUST HAVE YOUR GLOVES AND SLEEVES ON. AFTER INSPECTING, AND EVERYTHING IS OK YOU CAN REMOVE GLOVES AND SLEEVES. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB.

LIVE-FRONT TRANSFORMERS

BEFORE OPENING LID OR DOOR, YOU MUST HAVE YOUR GLOVES AND SLEEVES ON. IF VOLTAGE OVER 600V, GLOVES AND SLEEVES ARE REQUIRED. IF YOU ADEQUATELY COVER EQUIPMENT OVER 600V, GLOVES AND SLEEVES CAN BE REMOVED. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB.

THE RULE FOR USING GLOVES AND SLEEVES TO OPEN PADMOUNT TRANSFORMERS AND SUB-GRADE TRANSFORMERS IS ABOVE AND BEYOND THE FIVE FOOT RULE.

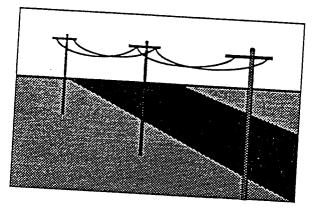
OVERHEAD LINES AND EQUIPMENT

600V THROUGH 13.8 KV - 5-FOOT RULE.

BEFORE COMING WITHIN FIVE FEET OF PROMARY, YOU PUT YOUR GLOVES AND SLEEVES ON. IF YOU HAVE EVERYTHING ENERGIZED COVERED, YOU CAN REMOVE GLOVES AND SLEEVES. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB. WORK-RULE 11 COVERS THE FIVE-FOOT RULE VIOLATION.

ESD JOINT TASK

TEAM



"Working together to deliver the goods."

SECTION F

IG: ESM



TEMPORARY
PROTECTIVE
GROUNDING
PROCEDURES

LOUISVILLE GAS AND ELECTRIC COMPANY ELECTRIC SERVICE DELIVERY DEPARTMENT

F. UNDERGROUND TEMPORARY PROTECTIVE GROUNDING PROCEDURES

- It shall always be assumed that electrical equipment and conductors are energized until proven to be de-energized. Proper administrative clearance shall be obtained and electrical tests shall be made before any work (including the installation of temporary protective grounds) is started. As an additional safeguard, the isolating switches, or other visible line breaks, shall be locked or blocked open and carded before work is started.
- 2 Hazards for Underground Workers:

Underground systems have inherently greater hazards than overhead systems. Due to the limited ability to visually verify circuit routes, there is a greater reliance on circuit maps. In addition, cable sheaths often develop induced potentials due to close capacitive coupling with energized phase conductors. In underground vaults, manholes and in padmounted equipment, a significant flash hazard exists in the event of a fault at the work location. The use of arc supression blankets shall be used. Also, since the worker is in direct contact with the earth, step and touch potential hazards nearly always exist at the work location under fault conditions.

- 3. Tailgate: BEFORE protective grounds are applied or the commencement of any work. The person or persons in charge shall advise ALL employees and the general public of all hazards associated with the job. Information conveyed as part of the job briefing shall include but not limited to the following:
 - a) quantity and location of protective grounds;
 - b) electric clearances provided,
 - c) proximity of energized lines or equipment.
 - d) and special considerations regarding the safe completion of the work,
 - e) hazards associated with the job,
 - f) work procedures involved,
 - g) special precautions,
 - h) energy source controls,
 - i) and personal protective equipment requirements.

Note: The above practice shall apply to those employees working alone.

4 Identification

- a) Identification of all cables is accomplished by checking the cable tag and the duct position as shown on conduit and cable maps.
- b) If the cable tag does not agree with the indicated duct position, trace the cable until identification is positive.
- c) Spiking method is used when working the following: All single phase circuits, loop feed systems, when transformers are added to existing systems, two or more cables are in the same ditch.
- d) Cables operating at 300 volts or less are to be tested with a voltmeter or other approved test device.

Note: When three-phase underground feeders out of substations are required to be worked on due to routine work or cable failure the supervisor in charge shall contact the load dispatcher in order to get clearance and grounds shall be installed on the circuit at the station by the station operators. When notified by the load dispatcher that grounds have been installed the crew shall be notified by the supervisor to proceed with work starting by stripping cable down to conductor and checking with an approved voltage detector. When testring any multi-cunductor lead primary cable, always do a test on at least two conductors, eliminating the possibility of testing a neutral on a (4) conductor cable. This process is to be done with the use of proper personal protective equipment including gloves and sleeves.

5 Downtown Network

Before cable is cut there must be a ground put on the closest transformer behind where cable is being worked giving the person working on the cable a ground on both sides of the cable once the cable has been cut.

- When working on a circuit out of Class A or B substation, if work to be done is between switch gear housing and lateral pole, a set of grounds should be installed at the lateral pole. Any three-phase cable taken out of service in order to be worked shall have grounds installed on cable at open locations.
- Any U.R.D. cable taken out of service in order to be worked on will have grounds installed at nearest open location on both sides of area to be worked on.

Isolating Underground Primary Cable

When isolating a section of Underground(URD) primary cable, the following steps should be followed:

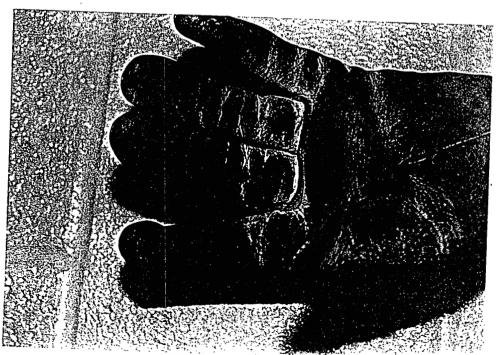
- Get the proper administrative clearances on outages , i.e., Service Center Supervisor, Electric Trouble Department Supervisor, or Service Center Manager.
- 2. Review an URD circuit schematic diagram and/or job print of the work location. Compare the URD circuit schematic diagram and/or job print with the actual job site. Ask yourself the questions:
 - Do the feeder phase(s) on the URD circuit schematic diagram and/or job print correspond with the actual findings at the job site? Is what you expected to find actually what you have?
 - If a transformer is indicated on the URD circuit schematic diagram and/or job print as the open, is it really the open? Check and see for yourself!
 - Look around! Are there any other subdivisions, houses, or businesses that may have other URD circuits in the same vicinity as the circuit you are preparing to work on? NEVER ASSUME! Don't be tricked?
- 3. Tailgate all of your findings with the crew(s) performing the work. Your tailgate should include but not limited to the following:
 - a) quantity and location of protective grounds
 - b) electric clearances provided
 - c) proximity of energized lines, cables, and equipment.
 - d) any special considerations regarding the safe completion of the work
 - e) hazards associated with the job
 - f) work procedures involved
 - g) any special precautions
 - h) energy source controls
 - i) personal protective equipment requirements
- 4. Switch a section of cable out of service using the following rules:

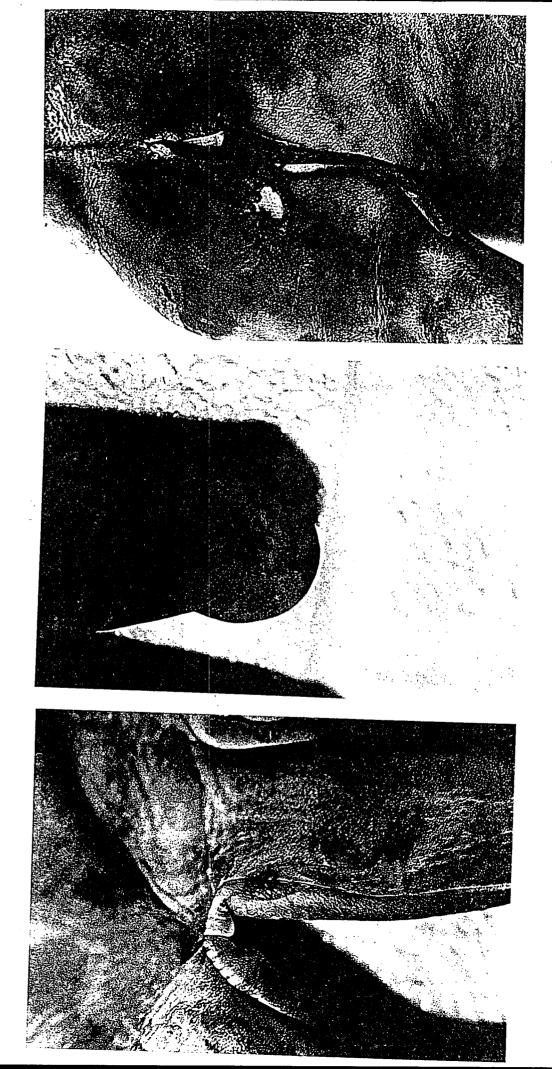
- a) Always wear your Personal Protective Equipment! (i.e., Hard Hat, Safety Glasses, Dielectric Boots, Insulating Rubber Gloves and/or insulating rubber sleeves(if applicable).
- b) Always check all testing equipment before each use to be sure they are operating properly.
- c) Identify the cable. Check for cable tags (if applicable) on the transformer elbows. They indicate the cable feed direction.
- d) Identify the cable. If at all possible test the section of cable, to be de-energized to see if in fact it is energized. That way when you de-energize the cable you can test to see if in fact the condition of the cable did change appropriately. This will give you a good indication that the equipment you are working on is the equipment you want to work on! Don't be fooled!
- e) Always Open Before You Close! Never close the open transformer before you open at another location. You could buck phases and cause injury to yourself, your co-worker, and equipment.
- f) A cable can be tested for energization or de-energization by testing the transformer being fed before and after the elbows are pulled and stood-off on adjacent transformers. (these elbows should always be mounted on grounded stand-off bushings to be considered dead.) If It Is Not Grounded It Is Not Dead! The secondary can be checked with a "voltmeter". The primaries can be checked by standing off the elbows (load break) on stand-off feed through bushings and testing for voltage with an "A. B. Chance Voltage Tester".
- g) A cable can be tested for energization or de-energization by testing the cable before and after de-energization using a "Cable Tester". An example of this is when we splice a cable or terminate a new transformer. The cable may already be exposed by contractors or we may expose it by digging a splice pit. How can we be sure this is the right cable? The best indication is by testing for energization or de-energization before and after de-energization with a "Cable Tester". This way we can monitor the electrical conditions of the cable. If conditions change as we expect them to, we can be better assured the cable is de-energized and we are working on the right cable. After all testing and conditions have proved out that we very likely have the correct cable,

- there is one more last imperative precautionary step to take. SPIKE THE CABLE WITH A CABLE SPIKER! DON'T ASSUME!
- h) The spiking method is used when working on all single phase circuits, loop feed systems, when transformers are added to existing systems, and when two or more cables are in the same ditch.



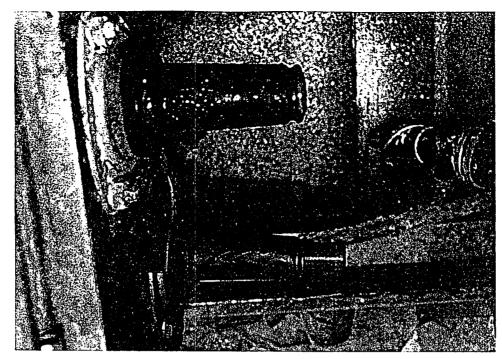
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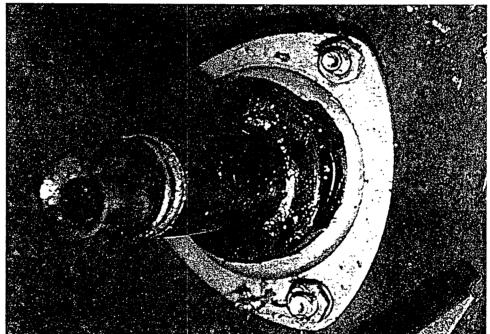
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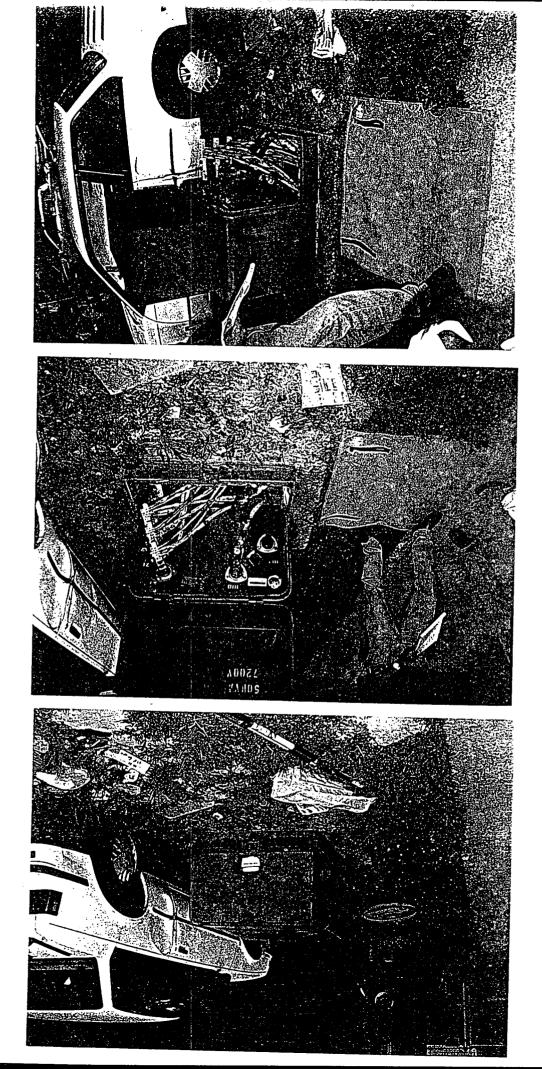
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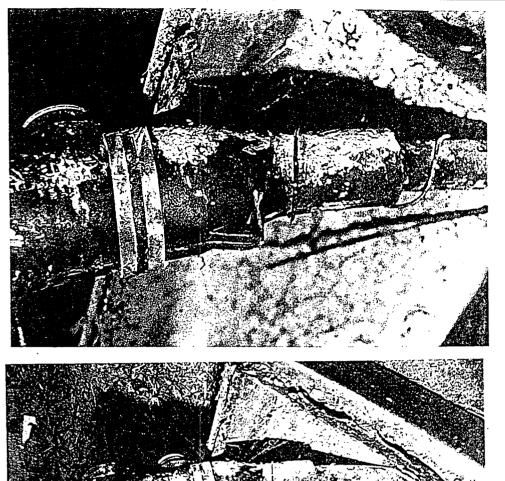
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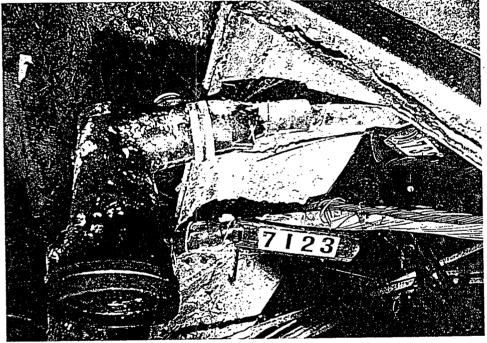
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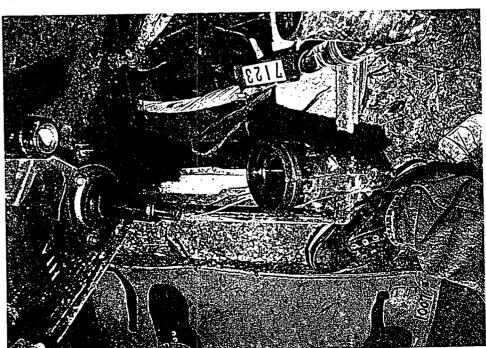


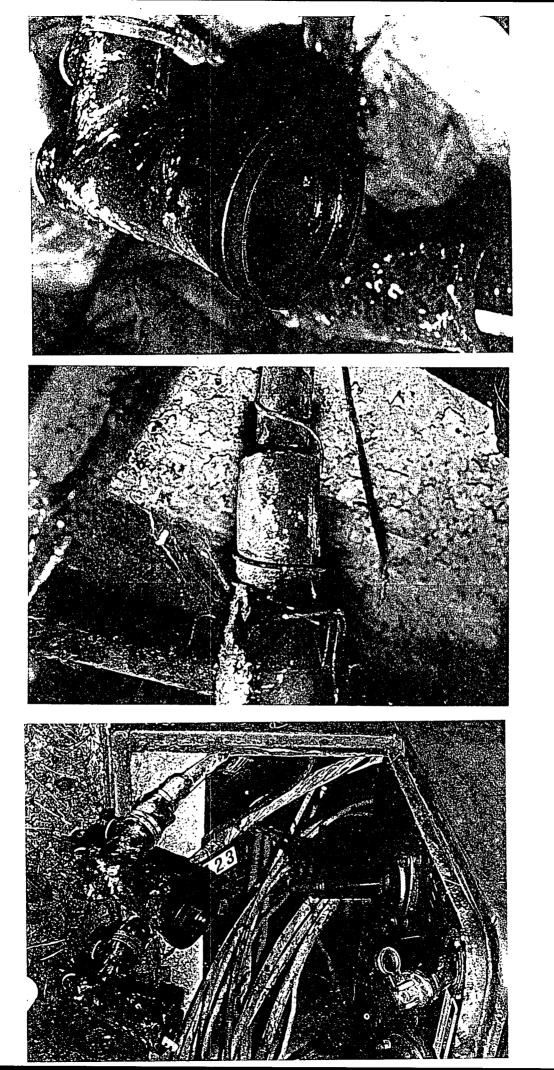
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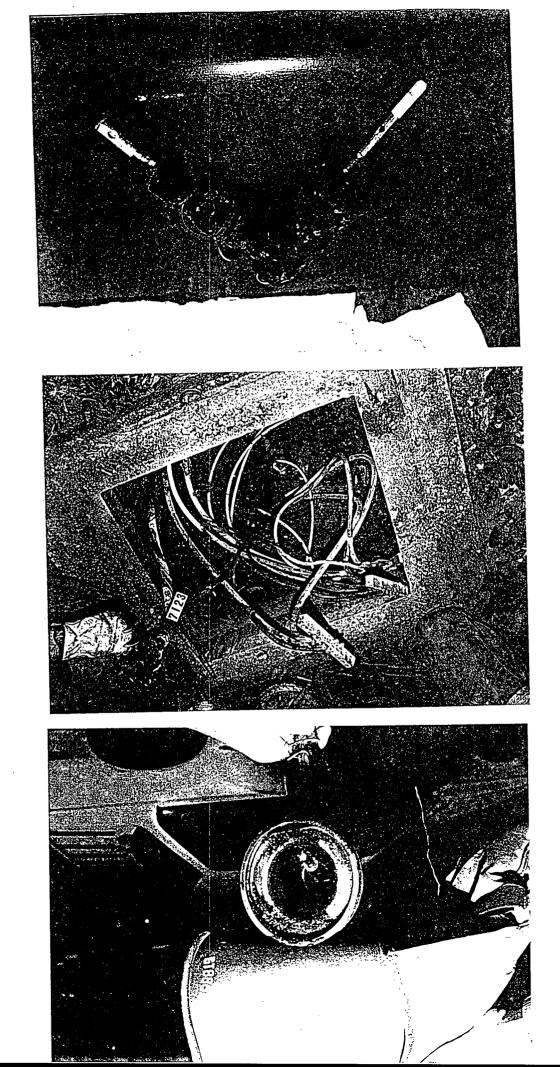
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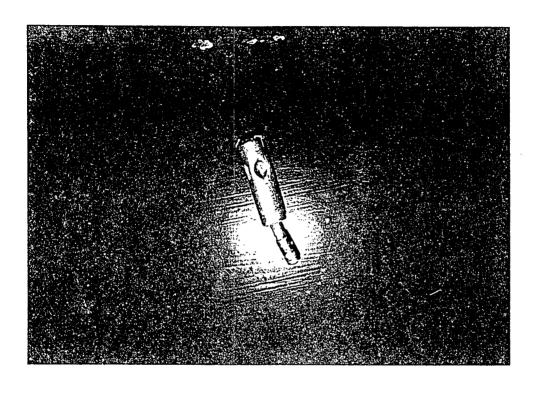
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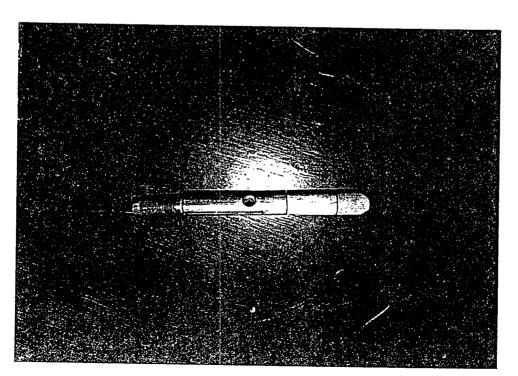
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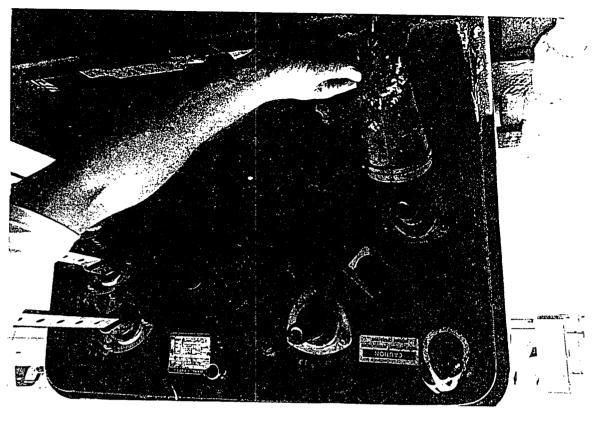
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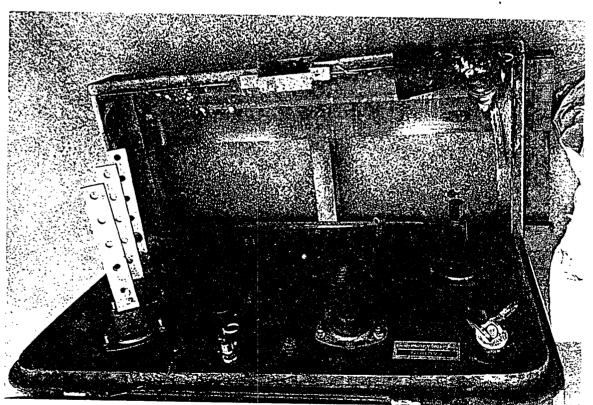
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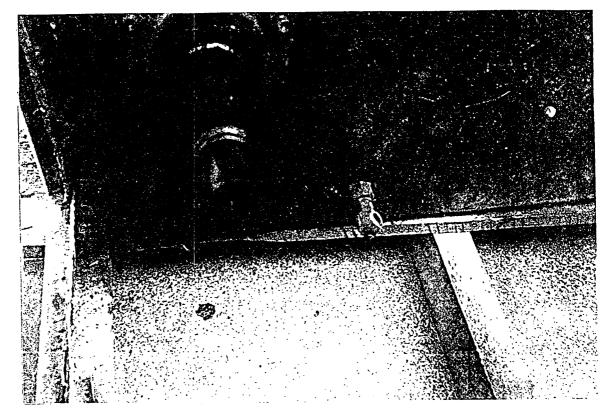
Attachment B
Photographs of Accident Site







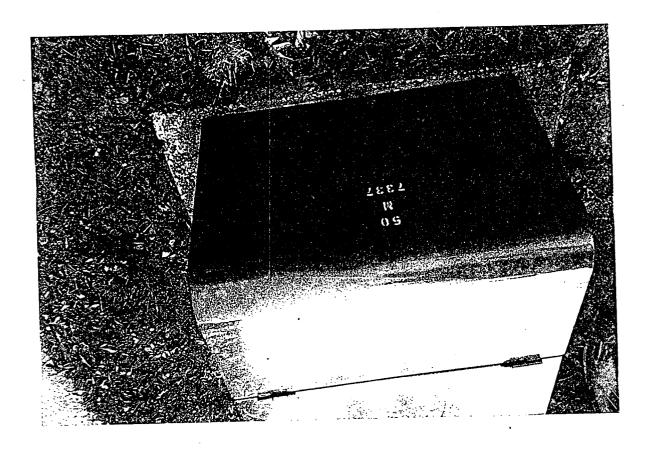


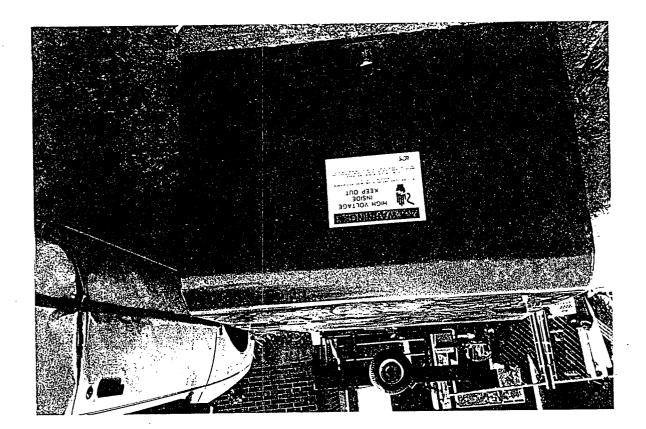


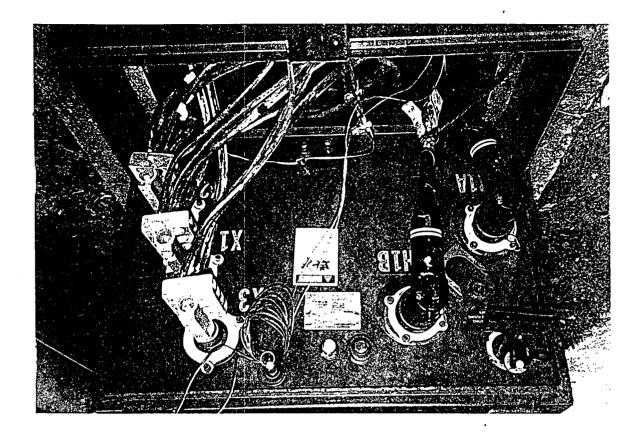












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